Symmetric Lividity of the Soles as Seen in Private Practice

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• **As seen in private practice, symmetric lividity of the soles is a relatively common condition which occurs predominantly in males in the first three decades of life.**

Untreated, the syndrome may persist for many years or it may be self-limiting, lasting only a few days.

Occupation does not seem to be a factor predisposing to symmetric lividity of the soles.

There is a high incidence of family occurrence of this condition.

Any form of treatment which controls the hyperhidrosis controls the other symptoms of symmetric lividity of the soles.

THE TERM *symmetric lividities of the soles of the feet* was coined by Pernet[15] to describe a symmetrical eruption occurring as bluish-red patches. The patches were slightly raised and had "an edematous, blebby look but contained no fluid." Hyperhidrosis was present. The central area was paler than the rest of the involved sole. No mention was made of the peculiar acrid odor so characteristic of the condition. Even though symmetric lividity of the soles is not always symmetrical, is not always limited to the soles, and is more often erythematous than it is livid, the term is generally descriptive and it serves to differentiate the condition from other types of erythema and hyperhidrosis. Symmetric lividity of the soles was a cause of considerable morbidity in the military services during World War II. It is not as rare in civilian practice as the small number of reported cases would indicate. From a study of the records of 37 patients observed in private practice the following observations are made of the condition as it occurs in the civilian population.

All patients in the series had plaques of soggy hyperkeratosis surrounded by well-demarcated erythema or lividity. Hyperhidrosis was pronounced. Bromhidrosis was present except in an occasional case of only one or two days' duration. Tenderness of the involved areas, particularly upon arising in the morning, was common. Although the pressure areas of the soles and the adjacent sides of the feet were the usual sites, occasionally the dorsa of the toes were affected and in one patient the palms and flexor surfaces of the fingers as well as the soles were involved. In three patients the condition was unilateral. Patients who had had the condition for any considerable period said that the severity varied from time to time, and some patients reported periods of complete remission. Of the 37 patients, only five were females. The age of onset varied from three months to 58 years. In most of the cases the symptoms developed before the patient was 30 years of age (Table 1).

Eighteen patients had had the condition less than a year at the time they sought medical attention, while in six the condition had been present for over ten years (the extremes: one day and 25 years) (Table 2).

Ten patients gave a family history of symmetric lividity of the soles, while two additional patients had a family history of hyperhidrosis only.

Among the patients in the series occupation seemed to be unrelated to the condition. Since the majority of the patients were of student age when first seen, "student" was the most common "occupation." Other occupations noted were those of mechanic, laborer, physician, accountant, trucker, telephone operator, clerk, nun, gardener and circulation manager.

No systemic disease or condition which could contribute to or cause the syndrome was noted. In spite of the chronicity of the condition in many

TABLE 1.—*Age at Onset in 37 Cases of Symmetric Lividity of the Soles.*

Years	Patients
0 to 5	3
5 to 10	3
10 to 15	7
15 to 20	9
20 to 25	5
25 to 30	3
30 to 50	3
Over 50	4

TABLE 2.—*Duration of Symptoms in 37 Cases of Symmetric Lividity of the Soles.*

Years	Patients
0 to 1	18
1 to 5	8
5 to 10	5
10 to 15	2
15 to 20	1
20 to 25	3

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patients, local dermatologic complications were uncommon. One patient developed a severe infectious eczematoid dermatitis superimposed on a contact dermatitis which was probably due to his shoes. Superficial mycotic lesions were observed occasionally. Plantar corns, plantar warts, and/or some flattening of the arches of the feet were noted in association with symmetric lividity of the soles in some patients.

It is only natural to compare symmetric lividity of the soles as observed in civilian practice with that seen in military practice. In none of the civilian patients did denudation of the involved areas develop as occasionally it did in military personnel. In the armed services the occurrence of symmetric lividity of the soles is perforce among males of the younger age group. The occurrence in civilian life is predominantly among patients of the same age group. While no data are available as to the incidence of the syndrome in the military services, it is the author's impression that it was much more common in the military environment.

Various theories have been advanced as to the cause of symmetric lividity of the soles. None of the theories adequately explains all the cases, particularly the palmar involvement. Pressure and friction,[6] poor ventilation,[6] excessive standing or walking,[7] septic foci, environment, "seborrheic" diathesis and psychoneurosis,[13] heavy shoes and socks,[10] impervious soles,[6,7] local cold injury,[17] thin soles,[1] ill-fitting shoes,[1,6] and nylon socks or stockings[2] have been implicated as causing or aggravating the condition. The widespread use of nonabsorbent, impermeable synthetic materials in socks and stockings, as well as in shoes, could certainly contribute to precipitation of the condition among the group under study. The importance of these factors is hard to evaluate. Apparently there has been an increase in the incidence of the condition in civilian practice. The widespread use of these materials tends to incriminate them. Carney[2] noted remission of the syndrome when the wearing of nylon stockings was discontinued. The author observed the same thing but also noted cases which did not respond to such treatment. In World War II, when symmetric lividity of the soles was seen often, the socks worn by American troops were of cotton-wool mixture. The service shoe was of heavy leather with composition sole. The ventilation factor may account for the relative rarity of symmetric lividity of the soles in women since the type of shoe usually worn by women does not allow the collection of perspiration and subsequent maceration.

In light of the fact that 10 of the 37 patients in the present series had a family history of the condition, it may be that hereditary predisposition is of etiologic importance.

The natural course of symmetric lividity is not predictable. No doubt some cases involute spontaneously. On the other hand, some patients have recurrences of the condition and some have symmetric lividity of the soles in varying intensity for many years. Any form of treatment which controls hyperhidrosis controls the other symptoms. Most patients need retreatment at intervals. The author has used 40 per cent formalin solution[9,16] painted carefully onto the involved areas every three to four days until hyperhidrosis is controlled. An astringent powder was used concurrently. The patient was instructed to change shoes and socks at least twice a day. Cotton socks and leather soled shoes or, preferably, sandals should be worn.[11] Other forms of treatment recommended have been application of weak formalin solution,[4,5,7] tannic acid ointment,[4] aluminum chloride solution,[7,14] x-ray,[18] calamine lotion,[15] rest,[3,13] potassium permanganate soaks[10,13] or paintings,[7] salicylic acid powder,[13] salicylic acid-sulfur salve,[18] alum powders,[6,10] paraformaldehyde powder,[4] parasympathetic blocking agents,[11] alcohol injections of sympathetic ganglia,[8] and the avoidance of nylon socks.[2]

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